

What is claimed is:

1. A biodegradable high molecular polymer of a copolymer or homopolymer of about 50-100 mole percent of lactic acid and about 50-0 mole percent of glycolic acid characterized in that the content of water-soluble low molecular compounds, as calculated on the assumption that said compounds each are a monobasic acid, is less than 0.01 mole per 100 grams of said high molecular polymer.

2. The biodegradable high molecular polymer according to claim 1, wherein the biodegradable high molecular polymer is a copolymer or homopolymer having a weight average molecular weight of about 2,000 to 50,000.

3. The biodegradable high molecular polymer according to claim 1, wherein the high molecular polymer has an inherent viscosity of about 0.05-0.5 dl/g as determined with a 0.5 weight percent chloroform solution thereof and a weight average molecular weight of about 5,000-35,000.

4. A method of producing a biodegradable high molecular polymer according to claim 1, which method comprises removing water-soluble low molecular compounds from a biodegradable high molecular polymer containing not less than 0.01 mole of water-soluble low molecular compounds per 100 grams thereof, as calculated on the assumption that said compounds each is a monobasic acid, using water or a mixture of water and an organic solvent readily soluble in water.

5. The method according to claim 4, wherein the organic solvent readily soluble in water is a member selected from the group consisting of acetone, methanol, ethanol, tetrahydrofuran, acetonitrile and ethyl acetate.

6. The method according to claim 5, wherein the organic solvent readily soluble in water is ethanol.

18 claims 3-6

6. The method according to claim ³~~4~~, wherein a ratio of the mixture of water and organic solvent readily soluble in water (v/v) is about 100/0 to 100/100.

7.8. The method according to claim ³~~4~~, wherein the biodegradable high molecular polymer containing the water-soluble low molecular compounds is in advance dissolved in a organic solvent.

9. The method according to claim ³~~4~~, wherein the removing the water soluble low molecular compounds is conducted under stirring.

10. The method according to claim ³~~4~~, wherein the removing the water soluble low molecular compounds is conducted at a temperature of about 0° to 90°C.

10.11. The method according to claim ³~~4~~, wherein the biodegradable high molecular polymer containing water-soluble low molecular compounds is dissolved in the 3 to 20 time amount (w/v) of an organic solvent, then the solution is poured into water under stirring at a temperature about 20° to 70°C to remove the trace amount of water soluble low molecular compounds from the biodegradable high molecular polymer.

12. A microcapsule for injectable sustained release which contains an effective amount of ingredient and a biodegradable high molecular polymer according to claim ³~~1~~ as an excipient.

13. The microcapsule according to claim ³~~12~~, wherein the ingredient is a water-soluble peptide.

14. A method for producing a microcapsule for injectable sustained release which contains an effective amount of ingredient and a biodegradable high molecular polymer according to claim ³~~1~~ which comprises preparing a w/o emulsion with a solution containing the ingredient serving as an inner water phase and a solution containing the biodegradable high molecular polymer

Claim 11

serving as an oil phase, dispersing said emulsiuon in a water phase to give a (w/o)/w emulsion, and subjecting thus obtained emulsion to a third aqueous phase to give a (w/o)/w ternary phase emulsion, and then the solvent in oil phase is desorbed.

add
a 4